

WHAT IS CLAIMED IS:

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1 1. A method of stimulating remyelination of central
2 nervous system axons in a mammal in need of such therapy
3 which comprises administer to said mammal an effective
4 amount of a monoclonal autoantibody selected from the
5 group consisting of mAb SCH 94.03, SCH 79.08, O1, O4,
6 A2B5, HNK-1, active fragments thereof, and natural or
7 synthetic autoantibodies having the characteristics
8 thereof.

1 2. The method of Claim 1 wherein the method of
2 administration is intravenous administration.

1 3. The method of Claim 1 wherein the method of
2 administration is intraperitoneal administration.

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1 4. The method of Claim 1 wherein said amount of
2 monoclonal antibody administered is between from about
3 0.5 mg/kg to about 400 mg/kg.

1 5. A method of stimulating the proliferation of glial
2 cells in central nervous system axons in a mammal in need
3 of such therapy which comprises administering to said
4 mammal an effective amount of a monoclonal autoantibody
5 selected from the group consisting of mAb SCH 94.03, SCH
6 79.08, O1, O4, A2B5, HNK-1, active fragments thereof, and
7 natural or synthetic autoantibodies having the
8 characteristics thereof.

1 6. The method of Claim 5 wherein the method of
2 administration is intravenous administration.

1 7. The method of Claim 5 wherein the method of
2 administration is intraperitoneal administration.

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1 8. The method of Claim 5 wherein said amount of
2 monoclonal antibody administered is between from about
3 0.5 mg/kg to about 400 mg/kg.

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1 9. A method of treating a demyelinating disease of the
2 central nervous system in a mammal in need of such
3 therapy which comprises administering to said mammal an
4 effective amount of a monoclonal autoantibody selected
5 from the group consisting of mAb SCH94.03, SCH79.08, O1,
6 O4, A2B5 and HNK-1, active fragments thereof, and natural
7 or synthetic autoantibodies having the characteristics
8 thereof.

1 10. The method of Claim 9 wherein said mammal is a human
2 being having multiple sclerosis, or a human or domestic
3 animal with a viral demyelinating disease, or a post-
4 neural disease of the central nervous system.

1 11. The method of Claim 9 wherein the method of
2 administration is intravenous administration.

1 12. The method of Claim 9 wherein the method of
2 administration is intraperitoneal administration.

1 13. The method of Claim 9 wherein said amount of
2 monoclonal antibody administered is between from about
3 0.5 mg/kg to about 400 mg/kg.

1 14. The method of Claim 9 wherein said mammal is a mouse
2 infected with Strain DA of Theiler's murine
3 encephalomyelitis virus.

1 15. A *in vitro* method of stimulating the proliferation
2 of glial cells from mixed cell culture comprising:
3 a) culturing a mixed cell culture containing glial
4 cells under condition sufficient for cell proliferation;

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- 5 b) introducing into the mixed culture an effective
6 amount of a monoclonal autoantibody selected from the
7 group consisting of mAb SCH94.03, SCH79.08, O1, O4, A2B5,
8 HNK-1, active fragments thereof, and natural or synthetic
9 autoantibodies having the characteristics thereof,
10 thereby producing a monoclonal antibody-treated mixed
11 culture;
12 c) maintaining the culture of step b) under conditions
13 sufficient for proliferation of monoclonal antibody-
14 treated cells, thereby resulting in the proliferation of
15 glial cells in the mixed culture; and
16 d) harvesting the glial cells from the mixed culture.

1 16. The method of Claim 18 wherein the mixed culture is
2 obtained from rat optic nerve.

1 17. The method of Claim 18 wherein the mixed culture is
2 obtained from rat brain.

3 18. A method of stimulating remyelination of central
4 nervous system axons in a mammal in need of such therapy
5 comprising:

- 6 a) culturing glial cells under conditions sufficient
7 for cell proliferation thereby producing a glial cell
8 culture;
9 b) introducing into the glial cell culture an effective
10 amount of a monoclonal autoantibody selected from the
11 group consisting of mAb SCH94.03, SCH79.08, O1, O4, A2B5,
12 HNK-1, active fragments thereof, and natural or synthetic
13 autoantibodies having the characteristics thereof,
14 thereby producing a monoclonal antibody-treated glial
15 cell culture;
16 c) maintaining the culture of step b) under conditions
17 sufficient for proliferation of monoclonal antibody-
18 treated cells;
19 d) harvesting the monoclonal antibody-treated cells from
20 the culture, thereby obtaining glial cells; and

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21 e) introducing the glial cells obtained in step d) into
22 the central nervous system of the mammal, thereby
23 stimulating remyelination of central nervous system
24 axons.

1 19. A pharmaceutical composition comprising, as the
2 active agent, an active fragment of a monoclonal
3 autoantibody selected from the group consisting of mAb
4 SCH94.03, SCH79.08, O1, O4, A2B5, HNK-1, and natural or
5 synthetic autoantibodies having the characteristics of
6 mAb SCH94.03, SCH79.08, O1, O4, A2B5 or HNK-1.

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